WIRELESS NOTICE BOARD USING IOT

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ABSTRACT

Notice board is important factor in any organization or public service places like railway stations, bus stations and looking malls etc. usually notices are displayed protrusive print of notices on board that is tough task. during this system style a Digital notice board exploitation IOT Technology has been given. thus we tend to are reducing paper work and time . IOT is that the network of physical "things" or object that contain embedded technology to interface and sense to manual with their internal states or the external setting. Automation is that the most frequently spelled term at intervals the sphere of physical science. The hunger for automation brought many revolutions at intervals the prevailing technologies. bulletin board may well be a primary consider any institution or public places like bus stations, railway stations, colleges, malls etc. protruding various notices day to day may well be a troublesome technique. A separate person is required to require care of this notice show. This project is concerning advanced wireless bulletin board. In IOT based mostly internet Controlled bulletin board, web is used to wirelessly send the message from Browser to the show. a neighborhood internet server is made, this might be a worldwide server over internet. At the PIC microcontroller, semiconductor diode matrix is employed to show message and flask for receiving the message over network. Whenever microcontroller receives any wireless message from GSM module, it displays on the semiconductor diode matrix. Internet of Things (IOT) belief system is looked as an exceptionally distinctive and radically distributed networked system composed of a awfully sizable amount of specifiable good objects. These objects will convey and to interface among themselves, with end- users or totally different parts within the system. getting into the time of web of Things, the employment of little, shoddy and versatile constituent that enable end-user programming become gift. one in every of them, thought of during this, is that the PIC microcontroller, totally customizable and programmable little pc board. Relative investigation of its key elements and exhibitions with a number of current existing IOT

paradigm platforms have shown that despite few disadvantages, the PIC microcontroller remains an modest with its effectively utilization in numerous vary of analysis applications in IOT vision.

Keywords— OLED Display, STM Microcontroller, Node MC, IOT

INTRODUCTION

Many new communication technologies had been developed within the final number of a protracted time. sharing information is that the primary saying of any despatch technology. currently a day‟s humans decide upon wireless affiliation because of the very fact they're able to interact with folks only and it need less time.The Internet Of Things(IOT) may be a major technology by that we are able to turn out varied helpful net applications.Basically, IoT may be a network during which all physical objects square measure connected to the web through network devices or routers and exchange information.. IOT permits things to be controlled remotely throughout existing network infrastructure. iot may be a wonderful and good methodology that reduces human try additionally to simple get entry to to bodily devices. this method to boot has self sufficient manipulate perform via that any device will manage with none human interaction. iot refers to the usage of showing intelligence connected devices and machine to info gathered through embedded sensors and actuators in machines and completely different physical gadgets. iot is anticipated to unfold hurriedly over the approaching years and this convergence can unleash a spanking new dimension offerings that enhance the standard of lifetime of purchasers and productivity of enterprises, unlocking a chance that the gsm refers to because the „connected lifestyles‟. this method may be a sevices based mostly communication interface (IOT) to the present system with a Raspberry pi with local area network at the transmittal finish. therefore if the shopper has to show any message, he will sendthe info inserted in a very subject enclose any email account that information can send to revered email that is about in several python code. which sent email can displays in several Raspberry pi display panel.i.e,LCD show. the most aim of the board is to find all faculty events like international conference, workshop and different faculty event. the look is finished in such some way that the system is a smaller amount in house. This digital project is style to develop a computer controlled scrolling message show board. As technology changes the method we tend to live our day to day lives, it's fascinating to imagine what the longer term can bring. folks need to be told and up thus far with latest events happening round the world. Nowadays, folks like wireless affiliation as a result of they will act with folks simply and it needs less time. Wireless may be a well-liked technology that permits associate degree device to speak with different devices with none linking of physical media between them. the most objective of the project is to gift a notice on a display victimisation the wide used technology

IOT, to facilitate the airing of the notice on digital unit through associate degree administrator‟s mobile application. The board is permitted as vital info of component or public like reworked space as bus, train station, field etc. is use of board. The technology of use in daily routine sticky notice in recent scenario. At the individual is lookout is that this notice is show the replaced is that the needed the advance wireless board. Basic of the project in show is a day the notice and backup off all history. IOT use of LAN module in board. the most objective is to style associate degree automatic, self enabled extremely reliable electronic board. A show connected to a server system ought to ceaselessly listen for the incoming messages from user, method it and show it on liquid crystal display screen. Message displayed ought to be updated each time the user sends new info solely attested folks ought to update the information to be displayed on the monitor.

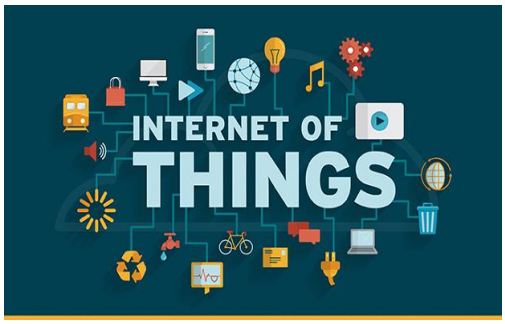
RELATED WORK

Dharmendra Kumar Sharma and Vineet Tiwari, IEEE 2015[1] introduces an occasional price, handheld, wireless electronic board by mistreatment Atmel's ATmega32 microcontroller and totally different wireless technologies (Bluetooth and ZigBee) and their performance analysis supported the parameter like vary, BER (bit error rate), RSSI (Received signal strength indicator), signal attenuation and power consumption. The board receives serial data from wireless module receiver and shows it on the graphical liquid show. we've got completed a standard communication receiver hardware for noticeboardhaving compatibilitywithbothwireless modules i.e. Bluetooth and ZigBee. we have a tendency to used KS0108 based mostly 128×64 graphical lcd show as display component. Neeraj Khera and Divya Shukla, IEEE 2016[2] has developed an easy and low price humanoid basedwireless board. They planned system uses either Bluetooth or Wi-Fi based mostly wireless serial electronic communication. For this purpose humanoid based mostly application programs for Bluetooth and Wi-Fi communication between humanoid based personal digital assistant devices and remote wireless display are used. At receiver finish, an occasional price microcontroller board (Arduino Uno) is programmed to receive and show messages in any of the on top of communication mode. mistreatment the developed system, 2 totally different applications for displaying messagesona remote digital board and wireless person occupation has been enforced. The developed system can thus aims in wirelessly sharing the knowledge with s u **m**

INTERNET OF THINGS (IOT)

The term internet of Things typically refers to situations wherever network property and computing capability extends to things, sensors and everyday things not unremarkably thought of computers, permitting these devices to come up with, exchange and consume knowledge with strippeddown human intervention. There is, however, no single, universal definition. the net of Things (IoT‟s) is represented as connecting everyday objects like smart-phones, web TVs, sensors and actuators to the net. The devices area unit showing intelligence joined along that allows new varieties of communication between things and other people, and between things themselves. Building IoTs has advanced considerably within the last few years since it's extra a replacement dimension to the planet of knowledge and communication technologies.

The Internet of Things, or IoT, refers to the billions of physical devices around the world that are now connected to the internet, all collecting and sharing data. Thanks to the arrival of super-cheap computer chips and the ubiquity of wireless networks, it's possible to turn anything, from something as small as a pill to something as big as an aeroplane, into a part of the IoT. Connecting up all these different objects and adding sensors to them adds a level of digital intelligence to devices that would be otherwise dumb, enabling them to communicate real-time data without involving a human being. The Internet of Things is making the fabric of the world around us more smarter and more responsive, merging the digital and physical universes.

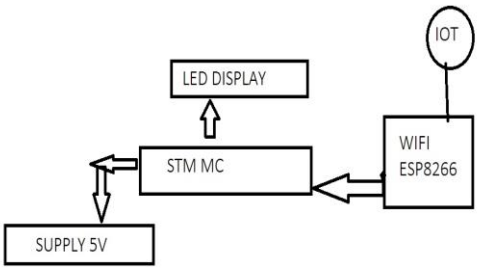


OLED DISPLAY

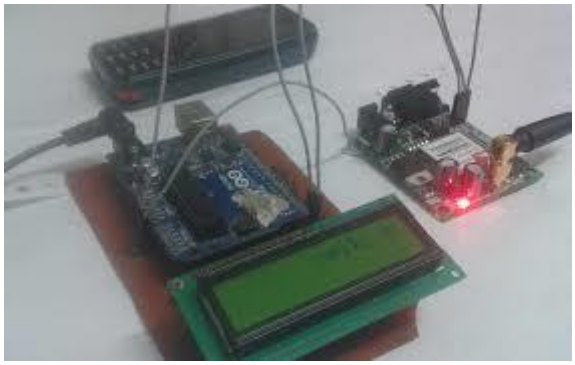
The acronym ‘OLED’ stands for Organic Light-Emitting Diode - a technology that uses LEDs in which the light is produced by organic molecules. These organic LEDs are used to create what are considered to be the world’s best display panels.

OLED displays are made by placing a series of organic thin films between two conductors. When an electrical current is applied, a bright light is emitted. A simple design - which brings with it many advantages over other display technologies.

BLOCK DIAGRAM



CIRCUIT DIAGRAM



METHODOLOGY AND IMPLEMENTATION

The main operate of the proposed system is to develop a Digital bulletin board that show message sent from the user through net and to style an easy, user friendly system, which might receive and show

notice in an exceedingly explicit manner with relevance date and time which is able to facilitate the user to simply keep the track of bulletin board daily and every time he uses the system. System comprises 2 section known as as sender and receiver, that shown within the figure1.Sender is liable for causing valuable info through the wireless network. so as to access Digital notice board the sender should enter into the corresponding net address. For preventing unauthorized access net address we offer security authentications like username and parole. Wi-Fi is superior financially savvy wireless fidelity USB module that interface the raspberry-pi stripped effort computer to Wi-Fi neighborhood. Wi-Fi utilizes the foremost recent 802.11n remote innovation and might bolster info rates up to 150Mb/s, Compared with the additional seasoned 54Mb/s 11g things. It to boot profits by a better remote local area network transfer speed, creating info transmission additional productive. The Raspberry Pi features a HDMI port that you'll be able to connect squarely to a screen or TV with a HDMI link. this can be the foremost easy arrangement; some trendy monitors and TVs have HDMI ports, and a few do not, nevertheless there are completely different decisions. This project utilizes a controlled 5V, 500MA power provide,7805 3 terminal voltage controllers is used for voltage regulation. Bridge sort full wave rectifier is used to rectify the ac output of secondary of 230/12V step down electrical device. we tend to utilize screen as show. digital display is used in an exceedingly project to ascertain the output of application. digital display will like wise be used as an area of a task to envision the yield of varied modules interfaced with the raspberry pi module. local area network assumes an important half in an exceedingly task to ascertain a yield. For traditional utilize, you will need to attach the Raspberry Pi to a visible show a screen or a TV.

STM MCU

It is a family of 32-bit microcontroller integrated circuits by STMicroelectronics. STM32 chips are grouped into related series which is based on 32 bit ARM Microcontroller core such as Cortex M7F, Cortex M4F, Cortex M3, and Cortex M0. Each consists of the processor core, RAM, flash memory, debugging interface and several peripherals.

STM MCU and Its Importance

As a matter of fact, STM32 is a family of microcontroller Ics which is based on the 32-bit RISC ARM Cortex M7F, Cortex M4F, Cortex M3, Cortex M0+, and Cortex M0 cores. Since STMicroelectronics licenses the ARM Processor IP from ARM Holdings. ARM core designs have several configurable options, and ST chooses the individual configuration to use for each design. It attaches their peripherals to the core before converting the design into silicon. The following tables summarize the STM Microcontroller families. STM32 Series such as L5, F7, H7, F4, F3, L4, J, etc.

They also have an excellent support base from multiple microcontroller development forums. In fact, STM32 microcontrollers offer a large number of serial and parallel communication peripherals that may interface with all kinds of electronic components such as sensors, displays, cameras, and motors, etc. All STM32 variants which are come with internal flash memory and Random Access Memory.

The range of performance available with the STM is quite expansive. The most common basic variants including the STM32F0 and STM32F1 sub-series which start with a clock frequency of only 24 Mhz and is available in packages with as few as 16 pins.

As a matter of fact, Advanced models are available with Floating Point Units(FPU) for applications with serious numerical processing requirements. Moreover, it is explicitly designed for low power portable applications running from a small battery.

NODE MCU

NodeMCU is an open-source LUA based firmware developed for the ESP8266 wifi chip. By exploring functionality with the ESP8266 chip, NodeMCU firmware comes with the ESP8266 Development board/kit i.e. NodeMCU Development board. Since NodeMCU is an open-source platform, its hardware design is open for edit/modify/build.

Node MCU Dev Kit/board consist of ESP8266 wifi enabled chip. The **ESP8266** is a low-cost Wi-Fi chip developed by Espressif Systems with TCP/IP protocol. For more information about ESP8266, you can refer to the ESP8266 WiFi Module There is Version2 (V2) available for NodeMCU Dev Kit i.e. **NodeMCU Development Board v1.0 (Version2)**, which usually comes in black colored PCB.

LIQUID CRYSTAL DISPLAY

Liquid Crystal Display LCD is liquid crystal display technology works by blocking light. Specifically, it is made of two pieces of polarized glass that contain a liquid crystal material between them. A backlight creates light that passes through the first substrate. It is used for display purpose.

RESULTS AND DISCUSSION

Cloud storage is a data storage model where the data storage will be in logical pools.The physical storage pairs several hosts (probably numerous areas) and this environment is normally copped to and maintained by a hosting organization. These cloud renders are creditworthy for maintaining this data feasible and approachable with security. Practically, users or any companies will purchase or lease the capacity of storage from the renders for storing company, user or any application data

CONCLUSIONS AND FUTURE SCOPE

This article implemented an IoT-based digital notice board which assist the organizations, colleges and malls in time and resources saving by providing the information availability the respective receiver. The

proposed system is very easy and simple to utilize and is at low cost. In future, this can be extended to implement a voice message-based application which even doesn't require to type the text message.

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